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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,978	04/05/2001	Sub Han	HANS3001/EM/6672	3715

7590 06/04/2004

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EXAMINER	
NGUYEN, CHAU M	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,978	HAN ET AL.	
	Examiner	Art Unit	
	Chau M Nguyen	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *19 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on March 19, 2004.

2. Claim 1 has been amended and claims 5 and 6 have been added. Claims 1-6 are pending in this application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al. (hereinafter "Ota '766") (U.S. Pat. No. 5,430,766) in view of Ota et al. (Hereinafter "Ota '456") (U.S. Pat. No. 5,025,456).

As claims 1, 3 and 4 Ota '766 (fig. 8) discloses a burst mode optical digital data receiver comprising:

a differential amplifying means (A_1) for detecting a difference between a digital data input signal and a reference signal to thereby generate an output signal; (col. 2, lines 33-37);

a reference signal generating means (peak detector) (col. 2, lines 37-40) and (870) (col. 9, lines 62-66), including an amplifying means (A_2) and a storing means (C_{PD}), for detecting a peak value of the output signal (col. 3, line 38) and comparing the output signal with the reference signal through a amplifying means to thereby generate the

reference signal corresponding to the peak value of the output signal (col. 2, lines 37-40), and for storing a peak value of the reference signal lines and providing the reference signal to the differential pre-amplifying means and the amplifying means through the storing means (col. 3, lines 45-64).

Ota '766 differs from the claimed invention, in that Ota '766 fails to show an amplifying means is a multistage amplifying means, and wherein the multistage amplifying means reduces generation of turn-on voltage offset by the reference signal generating means, to thereby exactly extract the reference signal.

However, Ota '456 discloses the number of gain stages of amplifier (such as A2, Ota '456, fig. 11) may be increased (Ota '456, col. 10, lines 39-40) for further reducing voltage offsets (Ota '456, col. 10, lines 41-43). Therefore, it would have been obvious to one having ordinary skill in the art to apply a multistage amplifier as taught by Ota '456 into the system of Ota '766 in order to reduce generation of turn-on voltage offsets as mentioned by Ota '456. One would have motivated for using multistage amplifier with the purpose of reducing the level of the input reference voltage, and assuring the stability of the circuit in high transmission rate (Ota '456, col. 10, lines 40-43 and col. 1, line 63 – col.2, line 2).

As claim 2, Ota '766 discloses a current source (I_{comp}) for compensating an offset of the differential amplifying means (col. 5, lines 50-55 and col. 9, lines 53-56).

As claim 5, Ota '766 and Ota '456 do not clearly show the turn on voltage offsets are reduced by $1+G^N$, G being the gain of the amplifiers and N being the number of the

amplifiers. However, Ota '456 discloses the number of amplifiers can be increased (Ota '456, col. 10, lines 39-40). Therefore, it would have been obvious to one having ordinary skill in the art to setup N amplifiers in the circuit as taught by Ota '456 in order to obtain the required performance. And, as a result, the expression $1+G^N$, as cited in the claimed invention, also can be derived by one having ordinary skill in the art by using the expressions (columns 7 and 8) as shown by Ota '456.

As claim 6, Ota '766 and Ota '456 do not clearly show the multistage amplifying means comprising a differential that includes at least two identical amplifiers. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the number of identical amplifiers for increasing the output signal and/or reducing the input offsets signal, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

Response to Arguments

5. Applicant's arguments with respect to claims 1-6 have been fully considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagahori (U.S. Pat. No. 5,430,765) is cited to show an digital data receiver having DC offset canceling preamplifier and dual-mode transimpedance amplifier.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau M. Nguyen whose telephone number is 703-305-8965. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4726. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

C.M.N
May 18, 2004

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600